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**Datasheet for the decision
of 24 October 2023**

Case Number: T 0787/20 - 3.2.06

Application Number: 13874461.0

Publication Number: 2953878

IPC: B66B1/34, B66B5/00

Language of the proceedings: EN

Title of invention:
PERSONALIZATION OF AN ELEVATOR SERVICE

Patent Proprietor:
KONE Corporation

Opponent:
Otis Elevator Company

Headword:

Relevant legal provisions:

EPC Art. 56, 100(a)
RPBA 2020 Art. 13(2)

Keyword:

Inventive step - main request, auxiliary request 2 (no)
Amendment after notification of summons - exceptional
circumstances, auxiliary requests 3 to 5 (no)

Decisions cited:

Catchword:



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Case Number: T 0787/20 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 24 October 2023

Appellant: Otis Elevator Company
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Respondent: KONE Corporation
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 17 January 2020
rejecting the opposition filed against European
patent No. 2953878 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman M. Harrison
Members: M. Hannam
J. Hoppe

Summary of Facts and Submissions

- I. An appeal was filed by the appellant (opponent) against the decision of the opposition division rejecting the opposition to European patent No. 2 953 878. It requested that the decision under appeal be set aside and the patent be revoked.
- II. In its reply to the appeal, the respondent (patent proprietor) requested that the appeal be dismissed or, in the alternative, that the patent be maintained according to one of auxiliary requests 1 or 2.
- III. The following document is relevant to the present decision:

D2 US-A-2006/0037818

- IV. The Board issued a summons to oral proceedings including a communication containing its provisional opinion, in which it indicated *inter alia* that the subject-matter of claim 1 of the main request appeared to lack an inventive step, as did that of auxiliary request 2, while claim 1 of auxiliary request 1 lacked clarity.
- V. With its submission of 24 August 2023 the respondent filed auxiliary requests 3 to 5.
- VI. Oral proceedings were held before the Board on 24 October 2023, during which the respondent withdrew auxiliary request 1. At the close of the oral proceedings, the parties' requests were as follows:

The appellant requested that the decision under appeal

be set aside and the European patent be revoked.
The respondent requested that the appeal be dismissed (main request) or, as an auxiliary measure, that the patent be maintained in amended form based on auxiliary request 2, filed with the reply to the appeal, or based on one of auxiliary requests 3 to 5, filed with letter of 24 August 2023.

VII. Claim 1 of the main request (patent as granted) reads as follows (with paragraph annotation as used by the appellant in its grounds of appeal but with features 1.6 to feature 1.7 amended by the Board to the full claim wording):

"1.1 A method of personalizing an elevator service, comprising:

1.2a receiving (104), at a service unit (200) of an elevator system (300) with destination control,

1.2b sensor data provided by a three-dimensional motion sensor (330) and

1.3 related to a passenger (360) tracked by the three-dimensional motion sensor (330);

characterized in further comprising:

1.4 receiving (104-107), at the service unit (200), at least one of

1.4a identification data of the passenger (360),

1.4b destination floor data of the passenger (360), and

1.4c aural data of the passenger (360),

1.5 determining (108), with the service unit (200), a personalized elevator service functionality for the tracked passenger (360) based at least on the received sensor data,

1.6 wherein the determination (108) of the personalized elevator service functionality is performed based at least on the received sensor data,

and at least one of
1.6a the received identification data,
1.6b the received destination floor data and
1.6c the received aural data; and
1.7 triggering (110), with the service unit (200),
the personalized elevator service functionality."

Claim 1 of auxiliary request 2 reads as for claim 1 of
the main request except for the deletion of feature
1.4a and feature 1.6a.

VIII. The appellant's arguments relevant to the present
decision may be summarised as follows:

Main request

The subject-matter of claim 1 lacked an inventive step
starting from D2 and combining common general knowledge
with this. D2 failed to disclose solely feature 1.2a of
claim 1, i.e. destination control. The objective
technical problem was merely to provide an alternative
to the hall call system of D2. Destination control and
hall call control were well known alternatives for an
elevator system such that it was obvious for the
skilled person to add destination control into the
access control known from paragraph [0141] of D2 and
thus reach the claimed subject-matter. Claim 1 did not
require simultaneous use of the two types of data when
determining personalized elevator service
functionality.

Auxiliary request 2

Similarly to the main request, the subject-matter of
claim 1 of auxiliary request 2 lacked an inventive step
when starting from D2 and combining common general
knowledge with this. It was obvious to modify D2 to
include destination control and, in so doing, this

automatically resulted in destination floor data being available. This destination floor data was used for the first personalization of allocating an elevator car to a passenger, the data from the 3D motion sensor providing subsequent personalization to, for example, delay closing of the elevator door if necessary. The service unit was not specified and could be considered as multiple smaller units, each dealing with different control functions of the elevator such that e.g. lift door control and destination door control could be in different smaller units of the service unit.

Auxiliary requests 3 to 5

These should not be taken into account under Article 13(2) RPBA 2020 since there were no exceptional circumstances justifying this.

IX. The respondent's arguments relevant to the present decision may be summarised as follows:

Main request

As also concluded by the opposition division, D2 was not the closest prior art and so could not be selected as a starting point for an inventive step objection. Even if it were taken as a starting point, the subject-matter of claim 1 involved an inventive step when starting from D2 and combining common general knowledge with this. D2 failed to disclose an elevator system with destination control and additionally failed to disclose the personalized elevator service functionality being simultaneously dependent upon the data received from the 3D motion sensor and from at least one of the received identification data, destination floor data or aural data. Even if destination control were added to the elevator system of D2, this would not lead to simultaneous use of two

criteria for decision making, which, although not defined in the claim, was implicitly present. Neglecting one piece of data for the personalized functionality decision-making did not conform to the definition of how the personalized elevator service functionality was performed in claim 1. Paragraph [0129] of D2 did not disclose destination control, but hall call. Paragraph [0036] of the patent indicated advantages of a destination control system over a hall call system. Even if these were simply alternatives, the skilled person was not motivated to modify the known system.

Auxiliary request 2

The subject-matter of claim 1 involved an inventive step starting from D2 and combining common general knowledge with this. The deletion of the use of identification data of the passenger allowed the technical problem to include an improvement in passenger privacy, as supported by paragraph [0018] of the patent. If the identification data of the passenger were still considered covered by the scope of claim 1, the inclusion of destination data in the personalized functionality supported the technical problem to read 'to provide improved personalization of the elevator service'. The personalization decision was based on two sources of data being processed in the service unit. For example, if a passenger were to stop on their way to the lift after having triggered a destination call, the system of D2, contrary to claim 1, would not allow the elevator to react and cancel the call. Even claim 3, being dependent on claim 1, had to base any personalization on two sets of data; similarly paragraph [0034] of the patent did not limit the claim to a single data source determining personalization. A destination control system was much more complicated

than a hall call system such that it would not be obvious for the skilled person to combine this with the 3D motion sensor data in D2.

Auxiliary requests 3 to 5

These should be taken into account. The objections to auxiliary requests 1 and 2 by the appellant and the Board were provided long after the summons to oral proceedings had been issued. There was thus no opportunity to respond to the objections sooner.

Reasons for the Decision

Main request

1. *Inventive step starting from D2*
- 1.1 The subject-matter of claim 1 lacks an inventive step.
- 1.2 First, as to the respondent's contention and the finding of the opposition division, that D2 was an inappropriate starting point for considering inventive step, this is not accepted. In this regard the Board finds that an 'appropriate' starting point for an inventive step objection can be any piece of prior art in the same field as, or a closely neighbouring field of, the claimed invention. D2 clearly meets this requirement, being directed to an elevator system in which a device for accurate and reliable monitoring of an area both inside and outside the elevator car is provided. To be overly restrictive as regards possible starting documents for an inventive step attack is unnecessary since less promising starting points would anyway normally make an obvious modification thereof (in order to reach the claimed subject-matter) more

difficult than when starting from a more promising document. Article 56 EPC requires the invention not to be obvious when having regard to the state of the art. In this regard it should be remembered that in the so-called problem/solution approach, the 'closest' prior art is merely a label given to the piece of prior art from which an inventive step attack starts and which is considered to be the most promising springboard. In many cases it may indeed not be possible to identify whether one piece of prior art is necessarily 'closer' than another piece of prior art, and doing so may well artificially restrict inventive step considerations using the problem/solution approach.

- 1.3 Other than arguing that D2 was an inappropriate starting point for an inventive step attack (see point 1.2 above), in the grounds of appeal, which shall comprise its complete appeal case (see Article 12(3) RPBA 2020), the respondent offered no counter-argument to the appellant's contention that D2 discloses all features of claim 1 except for the elevator system having destination control (see feature 1.2a of claim 1 in point VII. above).
- 1.3.1 At oral proceedings the respondent argued for the first time that D2 additionally failed to disclose the personalized elevator service functionality being simultaneously dependent upon the data received from the 3D motion sensor and from at least one of the received identification data, destination floor data or aural data. Irrespective of the fact that this new alleged fact which is a clear change of the respondent's case, could indeed be disregarded under Article 13(2) RPBA 2020, the Board finds it anyway to be incorrect.

- 1.3.2 Firstly, as far as what is to be understood as a 'personalized elevator service functionality', both the use of passenger identification data to allocate a particular elevator car to a passenger and delayed closing of the elevator door for a passenger moving slowly are ways in which the elevator service can be personalized. This much was even explicitly accepted by the respondent, and as the appellant noted, these forms of personalization were also amongst those listed as such in claim 3 as granted.
- 1.3.3 As regards the claimed feature that data from the 3D motion sensor is used to personalize elevator service functionality, this is disclosed in e.g. paragraphs [0109] to [0111] of D2 in which a sensor 79 is used to generate a three-dimensional image 76 of the area surrounding the elevator car and can be used to e.g. delay the closing of the elevator doors if a slow moving person is in the vicinity of the doors. The elevator functionality is personalised for the specific person concerned who has been detected as moving slowly.
- 1.3.4 D2 additionally discloses an access control system being combined with the area monitoring (see e.g. paragraph [0141]) in order to, for example, check that only authorised persons use an elevator. Such a check would require that identification data for an individual is used to decide upon authorisation and is thus also a form of personalization of the elevator service (an example of authorized persons being equipped with a badge is given).
- 1.3.5 As regards the element of the respondent's argument that a 'simultaneous' dependence from the two data sources was necessary for the personalized elevator

service functionality to be determined, this is not defined in claim 1 as also argued by the appellant. Provided that the personalized functionality is determined on the basis of two data sources defined in the claim (i.e. the received sensor data and one of the received identification data, destination floor data and aural data), successive rather than simultaneous dependence satisfies the claimed feature. In the embodiment of paragraph [0141] discussed above, an initial use of identification data with an access control system, to gain access to the elevator floor, can then be followed by 3D motion sensor data being used to stop the closing of the elevator doors. Each of these control actions (access control and elevator door control) is individually found to be a particular personalization of the elevator functionality. The combination of these two types of data being successively used is thus found to anticipate the claimed features of the determination of the personalized elevator service functionality being performed based on the received sensor data, and the received identification data.

- 1.4 The sole differentiating feature of claim 1 over D2 is thus as identified in point 1.3 above i.e. that the elevator system according to claim 1 has destination control (feature 1.2a). Paragraph [0002] of the patent acknowledges that two major elevator control arrangements are in use today - those with traditional control and those with destination control. With D2 disclosing (traditional) hall control of the elevator, the claimed destination control poses an objective problem of 'providing an alternative elevator call system'.

1.5 Wishing to solve this problem and based on common general knowledge, the skilled person would implement a destination control in place of the hall call functionality without exercise of an inventive step, thereby solving the posed problem and reaching the claimed subject-matter.

1.5.1 The respondent's argument that paragraph [0129] of D2 did not disclose destination control, but hall call control is indeed correct but does not dissuade the skilled person from making a modification to this disclosure in view of the objective technical problem to be solved. As acknowledged in paragraph [0002] of the patent, traditional control (i.e. hall call) and destination control are two major elevator control arrangements which were in use at the filing date of the application. That these two arrangements were alternatives was also not disputed by the respondent at oral proceedings. It is thus seen to be obvious for the skilled person to exchange one alternative with the other in the light of the posed objective technical problem being a mere alternative. Indeed each system has known advantages and disadvantages (e.g. cost and complexity), such that nothing inventive can be seen in the use of one or the other system in any particular elevator arrangement.

1.5.2 The respondent's argument that, even if these two elevator control systems were alternatives, the skilled person lacked any motivation to modify the elevator system known from D2, this is not accepted. The problem-solution approach, used to assist in deciding whether claimed subject-matter involves an inventive step, requires the formulation of the objective technical problem to be solved, based on the difference between claim 1 and the prior art starting point (here

D2). This provides the motivation for the skilled person to look for solutions to the problem, an obvious solution not allowing the recognition of an inventive step.

1.5.3 The respondent's argument that claim 1 defines two pieces of data used to determine the personalized elevator service functionality is not questioned here. However, as found in points 1.3.1 to 1.3.5 above, claim 1 is not limited to the determination occurring simultaneously. In paragraph [0141] of D2, an initial use of identification data with an access control system, to gain access to the elevator floor, can be followed by 3D motion sensor data being used to stop the closing of the elevator doors. The combination of these two types of data being successively used thus anticipates the claimed features of the determination of the personalized elevator service functionality being performed based on the received sensor data, and the received identification data. In this regard it should be noted that claim 1 puts no limits on what is to be understood by the expression 'personalized elevator service functionality' such that the term can only be interpreted broadly to cover all forms of elevator service functionality which relate to a person.

1.6 In summary, therefore, starting from D2 and wishing to solve the posed objective technical problem, the skilled person would reach the subject-matter of claim 1 in combination with common general knowledge without exercising an inventive step. The ground for opposition under Article 100(a) in combination with Article 56 EPC thus prejudices maintenance of the patent as granted. The main request is consequently not allowable.

Auxiliary request 2

2. *Inventive step starting from D2*

2.1 Relative to claim 1 of the main request, deletion of the 'identification data of the passenger' from the three optional data sources for the performing of the personalized elevator service functionality has the consequence that claim 1 is differentiated over D2 in that:

- a. the elevator system has destination control; and the determination of the personalized elevator service functionality is performed based (in addition to the received sensor data which is already known from D2) on at least one of:
- b. received destination floor data; and
- c. received aural data.

2.2 Regarding the objective technical problem to be solved based on these differentiating features, the respondent argued that the deletion of the identification data of the passenger from claim 1 allowed the technical problem to include an improvement in passenger privacy, as supported by paragraph [0018] of the patent.

This argument is, however, not persuasive. Despite the identification data of the passenger having been deleted from claim 1, the amended claim is formulated to 'comprise' receiving certain data and determining the elevator service functionality 'at least' on the received sensor data. Therefore, as the claim fails to exclude the collection of passenger identification data, identification data is still encompassed by the claimed subject-matter. Consequently, with an objective technical problem having to be solved over the entire scope of the claim, and with claim 1 including the use

of passenger identification data within its scope (even if not explicitly defined as such), a technical problem directed to an improvement in passenger privacy over D2 cannot be seen as objective.

2.3 The alternative objective technical problem formulated by the respondent was stated as being 'to provide improved personalization of the elevator service'. This is also not objective in view of the features differentiating claim 1 over D2. In addition to an elevator system with destination control (for which 'providing an alternative elevator call system' was the objective problem - see point 1.4 above), the determination of personalized elevator service functionality being based on at least one of received destination floor or aural data (in addition to the already available sensor data) does not provide an improved personalization with respect to D2, since no such improvement results from the claimed use of destination floor data compared to the hall call data of D2; both systems allow the appropriate floor to be selected for a particular passenger.

2.4 The Board thus concludes that the objective technical problem posed by the appellant is correct, namely 'how to provide a different personalization of the elevator service'.

2.5 In as far as 'personalized elevator service functionality' provides only a limitation to an undefined form of personalization, the use of destination floor data to allocate a particular elevator car to a passenger is also seen as a way in which the elevator service can be personalized. Again, this is stated as such in claim 3 as granted.

2.6 As was also found with respect to the main request, there is no requirement in claim 1 for both of the personalization functionalities to be performed simultaneously nor for the two sources of data, on which the determination of the personalization of the elevator service is based, to be simultaneously used. The personalization resulting from allocation of a destination floor can thus be performed first, that resulting from delayed closing of the elevator door (using 3D motion sensor data) can be performed at some later instance for the same passenger. Such sequential use of the data in personalization falls under the claimed requirement that 'the personalized elevator service functionality is performed based at least on the received sensor data, and at least one of the received destination floor data and the received aural data'.

2.7 The skilled person is aware from common general knowledge of destination control systems being an alternative to hall call elevator systems. Such a destination control system must necessarily use destination floor data when performing its decision making, such that the destination floor data itself can be seen to be the basis for a personalized functionality of the elevator (through allocation of a specific elevator car to a person making a destination call). Therefore, faced with the objective technical problem of 'how to provide a different personalization of the elevator service', the selection of a destination control system as a different personalization of the elevator service to D2, as argued by the appellant, has, as a necessary consequence, that destination floor data is used for the person in question and thus for the personalization. The second stage of personalization,

performed by a delayed closing of the elevator door (as disclosed in paragraph [0111] of D2), has as the consequence that the skilled person would reach the claimed subject-matter without becoming inventively active since the determination is based on both the available data, one to supply the car to the person for a particular floor and one, when e.g. detecting that this person might move slowly, to delay door closing for the person wishing to enter the lift going to the particular floor. Even if the person were to move at normal speed, the sensor data received is anyway taken into account when determining if to delay door closing or not.

2.8 As to the respondent's argument that the personalization decision was based on two sources of data being processed in the service unit, this does not hinder the skilled person from reaching the claimed subject-matter. As also argued by the appellant, the claimed service unit can be a plurality of sub-units (e.g. elevator control units) such that, even if the two sources of data were processed in separate control units, this can reasonably be seen as satisfying the claimed 'determining, with the service unit, a personalized elevator functionality ... based at least on the' two sources of data. The respondent notably did not contest this at oral proceedings.

2.9 In an attempt to demonstrate the difference of the invention according to claim 1 over the modified embodiment of D2 seen to deprive the subject-matter of claim 1 of an inventive step, the respondent referred to paragraph [0036] of the patent in which a passenger, having made a call from the destination control panel, stops on their way to the allocated elevator which is recognised by the 3D motion sensor and the missed

elevator call is cancelled. This is a very specific example of a possible system response in the method of personalizing an elevator service according to claim 1. The claim is however much broader; consider a single passenger approaching the elevator system alone who, after having input their destination, is tracked by the 3D motion sensor as they approach the allocated elevator and the elevator car doors delay closing in order to allow the passenger time to enter the car. This elevator personalization not only conforms with the method defined in claim 1, but is precisely how the elevator of D2, modified with a destination control system, would function. A difference between claim 1 and the elevator of D2 modified with a destination control system has thus not been demonstrated.

2.10 The respondent's further argument that destination control was much more complicated than hall call control, such that it would not be obvious for the skilled person to combine this with the 3D motion sensor data because it would add a further level of complexity, does not allow the recognition of an inventive step. As to how complicated or not a modification might be is largely irrelevant for the recognition or not of an inventive step in the present case. The important factor is whether the modification would be obvious to the skilled person. In view of destination control being a known alternative to hall call in elevator systems, the modification of D2 to a destination control system and the consequent necessary use of destination floor data in the elevator's personalized functionality results in the claimed subject-matter being obvious to the skilled person.

2.11 The subject-matter of claim 1 therefore lacks an inventive step (Article 56 EPC). Auxiliary request 2 is

thus not allowable.

Auxiliary requests 3 to 5

3. *Admittance*

3.1 Article 13(2) RPBA 2020 states that any amendment to a party's appeal case made after notification of a summons to oral proceedings shall not be taken into account unless there are exceptional reasons justifying this. This provision applies to auxiliary requests 3 to 5, filed with the submission of 2 August 2023.

3.2 The respondent argued that the appellant had raised objections to auxiliary requests 1 and 2 (which had been filed already with the reply of 8 October 2020) only with its submission of 27 July 2022, which was after the summons to oral proceedings had been notified (the summons was dated 13 May 2022). This does not present exceptional circumstances justifying the filing of auxiliary requests 3 to 5 more than one further year later with its submission of 24 August 2023. Despite the fact that the appellant's objections to auxiliary requests 1 and 2 were also filed after notification of the summons to oral proceedings, the respondent waiting over a year before reacting to these objections is seen to be an unacceptably long time. No exceptional circumstance can be seen to justify the auxiliary requests being filed so long after the appellant's objections were received.

3.3 The respondent's argument that the Board's communication under Article 15(1) RPBA 2020 was also received only long after the notification of the summons to oral proceedings is also not an exceptional circumstance. The Rules of Procedure of the Boards of

Appeal aim to get the parties' complete appeal cases submitted at the earliest opportunity, the admittance of amendments to the respective complete case becoming more difficult at each further stage of the appeal procedure. The Board's communication with a preliminary opinion is not to be seen as an invitation to file further auxiliary requests. If new objections are raised in that communication which had previously not been on file, this might be regarded as exceptional circumstances justifying an amendment to the appeal case. In the present case the respondent notably did not identify any new objection that had been raised by the Board in its communication.

- 3.4 The respondent thus failed to demonstrate any exceptional circumstances justifying the consideration of auxiliary requests 3 to 5. Consequently auxiliary requests 3 to 5 were not taken into account (Article 13(2) RPBA 2020).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The European patent is revoked.

The Registrar:

The Chairman:



D. Grundner

M. Harrison

Decision electronically authenticated